Columbia River Treaty Frequently Asked Questions Addendum

Columbia River Treaty History

1. Why is Arrow Lakes Reservoir Critical to Flood Control?

The Arrow Lakes Reservoir (Arrow), created as a result of the Columbia River Treaty with the 1968 impoundment of the Upper and Lower Arrow Lakes, was viewed as the most important Canadian reservoir for flood control during the original Treaty negotiations. The large amount of storage it could provide quickly and at relatively low economic cost had significant implications for the negotiation of downstream benefits and was the key to making the development of the Columbia River in Canada economic.

Arrow is important for U.S. flood control because it takes only several days for flow releases from Arrow to reach the lower Columbia. Several days are within the run-off forecasting timeframe so Arrow, along with Grand Coulee, can be used to manage flows during flood events. Headwater reservoirs (for example Mica, Hungry Horse) have longer travel times.

Arrow is also an important reservoir for Canada because its storage provides a buffer between Mica and Revelstoke power generation and the U.S. power system. The Arrow Reservoir allows Mica and Revelstoke dams to be operated, for the most part, to maximize BC interests while ensuring that Columbia River flows downstream of the Hugh Keenleyside Dam meet the downstream flow requirements specified by the Treaty.

Arrow has the most potential of any of the Canadian reservoirs to change operations post 2024. Although it is a large storage facility (7.1 million acre feet), it is a relatively low head dam; the associated power plant (Arrow Lakes Hydro) has only 185 megawatts of installed capacity. If the Treaty is terminated, an optimal power operation would keep the reservoir near full to maximize the head. Essentially Arrow could operate as a near run-of river facility with most of the flow regulation being provided by the upstream facility (Mica). Only a small draft at Arrow would be required for local Canadian flood control.

2. What are the Kootenay Diversion Rights under the Columbia River Treaty?

Under the Columbia River Treaty (Article XIII), Canada has the right to divert water from the Kootenay River in the vicinity of Canal Flats into the headwaters of the Columbia River as follows:

- Since 1984 Canada has had the right to divert up to 1.5 million acre-feet of water per year, provided that the Kootenay River flow just downstream of the diversion is not reduced below the lesser of 200 cubic feet per second or the natural flow.
- From 2024 – 2044, Canada can divert any amount of water, provided that the flow rates in the Kootenay River at the Canada – U. S. border (near Newgate, B. C.) does not drop below the lesser of 2500 cubic feet per second or the natural flow at the border.
- From 2044 – 2064, Canada can divert any amount of water, provided that the flow in the Kootenay River at the Canada – U. S. border (near Newgate, B. C.) does not drop below the lesser of 1000 cubic feet per second or the natural flow at the border.

The Protocol to the Treaty ensured that any diversion of water from the Kootenay River instituted under Article XIII could continue in perpetuity.

The diversion provision was included in the Columbia River Treaty because it was thought that this water could be used to increase hydroelectricity production along the Columbia River. Consideration was also given to the potential to reclaim Kootenay Flats agricultural land, south of Kootenay Lake near Creston.

It is unlikely that the Kootenay Diversion Rights will ever be exercised as there would be significant potential socio-environmental impacts. Impacts from a diversion could include: a change in water temperatures and sediment loading at the headwaters of the Columbia River and in the Kootenay River; impacts to important habitat for migratory birds, waterfowl and mammals; as well as, decreased tourism.

3. What is the Relationship Between the Non-Treaty Storage Agreement (NTSA) and the Columbia River Treaty?

The Non-Treaty Storage Agreement (NTSA) is a water regulation agreement between BC Hydro and the Bonneville Power Administration that governs the use of 5 million acre-feet of Kinbasket Reservoir storage not already covered by the Columbia River Treaty. Non-Treaty Storage Agreement operations impact discharges from the Kinbasket, Revelstoke, and Arrow reservoirs as well as downstream U.S. hydroelectric projects.

BC Hydro is the Canadian Entity under the Columbia River Treaty (Treaty), and Bonneville Power Administration is one of the two federal agencies (along with the U.S. Army Corps of Engineers) that comprise the U.S. Entity under the Treaty. Both entities are responsible for implementing reservoir operations that comply with the Columbia River Treaty.

The Non-Treaty Storage Agreement is distinct from the Columbia River Treaty. The Columbia River Treaty is an international agreement between the United States and Canada for the primary purpose of flood control and power production, whereas the Non-Treaty Storage Agreement is a commercial agreement between BC Hydro and Bonneville Power Administration. The Columbia River Treaty provides the overall operating framework for Canadian Treaty reservoirs, whereas Non-Treaty Storage Agreement operations allow (typically) smaller adjustments to Columbia River Treaty operations. Non-Treaty Storage Agreement operations cannot diminish benefits to either country under the Columbia River Treaty.

Background

Under the terms of the Columbia River Treaty, B.C. was required to build three dams, Duncan, Arrow (Keenleyside) and Mica, to provide 15.5 million acre-feet of storage capacity in the three reservoirs. B.C. constructed Mica Dam with an additional 5 million acre-feet of live storage capacity beyond that required under the terms of the Columbia River Treaty. This additional reservoir storage cannot be fully utilized without agreement from the U.S. Entity as doing so could conflict with reservoir discharge requirements under the Columbia River Treaty.

Bonneville Power Administration and BC Hydro reached a temporary agreement in 1983 covering operations of some of this additional Kinbasket storage. When the terms of the temporary agreement expired, a longer-term Non-Treaty Storage Agreement was signed in 1984 and then expanded in 1990. Under the 1984 agreement, BC Hydro and Bonneville Power Administration agreed to share the operations of 2 million acre-feet of storage. The 1990 agreement covered the full 5 million acre-feet of storage – this agreement expired in 2011. The most recent Non-Treaty Storage Agreement also governs the full 5 million acre-feet, was signed in April 2012 and will expire in September 2024.

BC Hydro committed to ensuring the Non-Treaty Storage Agreement is in alignment with the Columbia River Water Use Plan (WUP). Signed in 2004, the Columbia River Water Use Plan defines how BC Hydro operates its facilities in relation to all known water use interests on the Columbia River. These sometimes competing water uses include fish, wildlife, ecosystems, archaeological sites, power generation, and flood control.

4. What is the Libby Coordination Agreement?

The Libby Coordination Agreement was signed on February 16, 2000 as an entity agreement under the Columbia River Treaty between the Canadian Entity (BC Hydro) and the U.S. Entity (Bonneville Power Administration and U.S. Army Corps of Engineers). The Libby Coordination Agreement allows the U.S. Entity to operate Libby dam to meet U.S. fisheries laws and provides options for Canada to self-compensate for the resulting loss of power production.

Background

Under the terms of the Columbia River Treaty, Canada permitted the U.S. to build the Libby Dam on the Kootenai River (U.S. spelling) in Montana. The dam was completed in 1973 and the reservoir, flooding approximately 70 kilometers into Canada, filled for the first time in 1974. Due to difference in spelling Kootenay (i) the reservoir was named Koocanusa for Kootenay (i), Canada and the U.S.A. Under the Treaty, operation of Libby Dam was to be coordinated with Canada. Operations of Libby Dam from 1973 through 1992 were managed to optimize power generation and flood control in the two countries.

In 1993, the U.S. Army Corps of Engineers, responding to U.S. regulatory agency concerns, began to operate Libby in a manner designed to benefit downstream sturgeon spawning, with less water released from Libby during the fall and winter and more water released during the spring and summer. This operation resulted in power losses, including additional spill and reduced seasonal value, at downstream Canadian hydropower plants on the Kootenay River system. The Canadian Entity objected to this unilateral operating change. The dispute was set aside with the signing of the Libby Coordination Agreement.

In return for Libby Dam operations that meet U.S. regulatory requirements for fish, the Libby Coordination Agreement gives Canada the flexibility to self-compensate for its Kootenay River power value losses. Canada has the option to release water from the Arrow Lakes Reservoir and receive the resulting power generated at U.S. federal plants during periods of high power value. Canada returns the power to the U.S. during times of lower power value, with the value difference being the net compensation to Canada. Under the Libby Coordination Agreement, Canada also obtains some non-power benefits, including more favourable Treaty requirements on Arrow discharges during January, which benefits mountain whitefish spawning, and an option to exercise a Arrow-Libby "storage swap" agreement when beneficial to Canada. This "storage swap" agreement has been used in several years to improve recreational conditions for the communities on Koocanusa Reservoir.

Until 2002, Libby dam operations continued to observe the "Standard Flood Control" regime that had been in place since dam operations began. However, in response to a 2000 Biological Opinion, under the U.S. Endangered Species Act, Libby began operating to an interim alternative flood control procedure referred to as "Variable Flow" or "VARQ". Libby dam began discharging less water during the fall/winter period and more water during the spring/summer to benefit downstream fish. However, this new flood control operating regime also resulted in slightly higher frequencies of peak water levels on Kootenay Lake and on the Columbia River downstream of Castlegar.

In June 2008, the U.S. Entity permanently adopted the "Variable Flow" flood control regime for Libby which, while still providing significant energy benefits and flood protection for Canada, does so at a reduced level compared to the terms expected by Canada when it ratified the Columbia River Treaty. The Canadian Entity notified the U.S. that compensation would be required for the reduced levels. The Columbia River Treaty Operating Committee has made some good progress on this issue, but has not yet reached final agreement.


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